DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-000751
Date Inspected: 30-Oct-2007

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 630
OSM Departure Time: 1530
Location: Changxing Island

CWI Name:	Fu Guo Gan			**CWI Present:**	☑ Yes	☐ No		
Inspected CWI report:	☐ Yes	☐ No	☑ N/A	**Rod Oven in Use:**	☐ Yes	☐ No	☑ N/A	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A	
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A	
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A	
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A	

Bridge No: 34-0006
Component: OBG Closed Rib Trail

Summary of Items Observed:

Caltrans Quality Assurance (QA) Inspector, Larry Viars was present to observe the dimensional testing of Orthotropic Box Girder (OBG)Mock-up closed rib trial, for the San Francisco Oakland Bay Self Anchored Suspension Bridge, at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

Caltrans QA Inspector monitored welding parameters and weld joint fit up of Orthotropic Box Girders (OBG) closed rib weld trial. Measurements were taken prior to tack welding to ensure a fit-up of .25 mm. If the root gap exceeded .25 mm ZPMC personnel placed a jack below the deck plate adjacent to close rib tacks to achieve the fit up. The following picture shows ZPMC personnel removing decreasing gap with the jack prior to tack welding.

The tack welds spacing for the closed rib weld trial was noted as 600 mm centered from the left end towards the right end with the last tack weld spaced at 880 mm. A total of 17 tack welds were noted for each weld with a with a layout length of 75 mm.

Tack welding of the closed rib weld trial was approximately 50% complete by 1400. Random measurements of the root gap were taken by the Caltrans QA. The following measurements of the root gap were recorded and marked on rib adjacent the root gap. Weld # 1 at 4320 mm from right end a 50 mm gap with a length of 12 mm. Weld # 2 at 4312 mm from right end a 65 mm gap 20 mm in length. Weld # 6 at 4320 mm from right end a 65 mm gap with a length of 80 mm. Weld # 10 at 4335 mm from right end a 65 mm gap was noted.

Caltrans QA observed ZPMC welder Mr. Yang Yong Zeng performing Gas Metal Arc Welding (GMAW) of closed rib tack welding. ZPMC QA Fu Yuhong stated, the Welding Procedure Specification used for the tack

welding was WPS-B-T-2342-U2 (u-ribs).

The following welding variables were recorded by Caltrans QA on closed rib weld trial. Weld joint # 7, amperage 320, volts 30.3, and a travel speed of 562 (with start and stop time excluded).

Caltrans QA monitored welding parameters of GMAW closed rib tack welding as well as dimensional measurements of closed rib to plate fit-up. Welding and fit-up appeared to be in conformance with the Special Revisions and AWS D1.5 requirements at the time of observation.

Summary of Conversations:

As identified within the contents of this report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Viars,Larry	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer